

## AUTHORIZING THE CONSTRUCTION AND EQUIPMENT OF A GEOMAGNETIC STATION FOR THE DEPARTMENT OF COMMERCE

JUNE 13, 1951.—Committed to the Committee of the Whole House on the State  
of the Union and ordered to be printed

Mr. GARMATZ, from the Committee on Merchant Marine and Fisheries,  
submitted the following

### REPORT

[To accompany H. R. 3830]

The Committee on Merchant Marine and Fisheries, to whom was referred the bill (H. R. 3830) to authorize the construction and equipment of a geomagnetic station for the Department of Commerce, having considered the same, report favorably thereon without amendment and recommend that the bill do pass.

The purpose of this bill is to authorize the construction and equipment of a geomagnetic station together with necessary utilities, instruments, and appurtenances to be operated by the Coast and Geodetic Survey under the Department of Commerce. The estimated amount required to establish such geomagnetic station is \$1,575,000, with provision being made for adjustment of the authorization in the event of increases or decreases in construction costs generally from January 1, 1951.

The Congress, by the act of August 6, 1947 (61 Stat. 787), as amended, has designated the Department of Commerce as the depository of the Government for all magnetic data, and has assigned to the Secretary the duty of assembling, correlating, and distributing such data for the benefit of Government and private agencies. The act further authorizes the Secretary to conduct developmental work for the improvement of magnetic procedures and instruments, and to engage in research in the science of geomagnetism.

The work carried out by the Coast and Geodetic Survey pursuant to such act, is of inestimable value and importance to the United States in many essential civilian and military fields such as navigation, communications, weapons design and exploration for mineral resources such as petroleum and uranium.

Properly evaluated magnetic data and up-to-date magnetic instruments are of prime importance in many modern defense preparations, as well as for the normal operation of air and sea navigation. The Coast and Geodetic Survey operates stations for the collection of such data in selected areas throughout the United States and territory under the jurisdiction of the United States. In addition to the collection of geomagnetic data, the Magnetic Observatory, presently operated by the Coast and Geodetic Survey, at Cheltenham, Md., also standardizes and calibrates magnetic instruments used by the military and other departments of the Government as well as private agencies and by friendly foreign nations with whom the United States exchanges scientific information of this character. The need for this legislation arises from the fact that the Magnetic Observatory at Cheltenham, Md., has become obsolete, and, with the encroachment of construction of various kinds in the nearby area, the site has become very undesirable.

In requesting the authorization to construct and equip a new laboratory, the Secretary of Commerce pointed out that the present buildings at Cheltenham are nearly 50 years old and being of wooden structure are without adequate fire protection to safeguard valuable instruments and records; and the site is within a few hundred yards of a State correctional institution and is a frequent target of vandalism by the inmates. Accordingly, a survey was made to select a site with satisfactory magnetic qualities and free from danger of encroachments by land improvements or other structures. A site made available under permit from the Department of the Army, comprising approximately 174 acres on the A. P. Hill Reservation near Fredericksburg, Va., has been selected as the one which meets all requirements, both from the technical standpoint and convenience of location. Construction of such a new and adequate magnetic observatory has been urged by the Research and Development Board of the Department of Defense, by the Carnegie Institute and by the International Association of Terrestrial Magnetism and Electricity. The Research and Development Board has indicated that establishment of such a laboratory would obviate the duplication of similar work by the military agencies.

Your committee is of the opinion that this is important legislation and has unanimously reported the bill favorably. The Bureau of the Budget has stated that it has no objection to the reports of the Secretary of Commerce and the Assistant Secretary of Defense. These reports are as follows:

THE SECRETARY OF COMMERCE,  
*Washington, D. C., April 3, 1951.*

HON. SAM RAYBURN,  
*Speaker of the House of Representatives,*  
*Washington, D. C.*

DEAR MR. SPEAKER: Enclosed are four copies of a draft of a bill to authorize the construction and equipment of a geomagnetic station for the Department of Commerce.

The proposed legislation is required in order to authorize the construction of a new geomagnetic station to replace the obsolete Coast and Geodetic Survey station now located at Cheltenham, Md. The station would require observatory buildings, laboratory buildings, observers' quarters and necessary auxiliary structures. The site must be one with satisfactory magnetic qualities and free from the danger of encroachment by land improvements or other structures. Because of its value to the national defense, the Department of the Army has made available a site of 174 acres on the A. P. Hill Reservation near Fredericks-

burg, Va., which will meet all requirements. However, in view of the current consideration of proposal for the dispersal of Federal activities, the site of the proposed station has not been settled.

The buildings of the present geomagnetic station at Cheltenham are nearly 50 years old. They are of wooden construction and are without adequate fire protection to safeguard valuable instruments and records. The site is within a few hundred yards of a State correctional institution and is a frequent target of vandalism by the inmates.

The Congress, by the act of August 6, 1947 (61 Stat. 787), as amended, has designated the Department of Commerce as the depository of the Government for all magnetic data, and has assigned to the Secretary the duty of assembling, correlating, and distributing such data for the benefit of Government and private agencies. The act further authorizes the Secretary to conduct developmental work for the improvement of magnetic procedures and instruments, and to engage in research in the science of geomagnetism.

The proposed observatory will be used to carry out the responsibilities imposed by the Congress. Properly evaluated magnetic data and up-to-date magnetic instruments are of prime importance in modern defense preparations, as well as for the normal operation of air and sea navigation.

Construction of a new and adequate magnetic observatory by the Department of Commerce has been urged by the Research and Development Board of the Department of Defense, by the Carnegie Institute and by the International Association of Terrestrial Magnetism and Electricity. The Research and Development Board has indicated that establishment of such an observatory would obviate the duplication of military agencies constructing and operating similar installations.

I recommend your early consideration of this legislative proposal and urge its enactment.

The Bureau of the Budget advises us that there is no objection to the submission of this proposed legislation.

Sincerely yours,

THOMAS W. S. DAVIS,  
*Acting Secretary of Commerce.*

ASSISTANT SECRETARY OF DEFENSE,  
*Washington 25, D. C., May 18, 1951.*

HON. EDWARD J. HART,

*Chairman, Committee on Merchant Marine and Fisheries,  
House of Representatives.*

DEAR MR. HART: In accordance with the request contained in your letter of April 25, 1951, I wish to submit for your consideration the views of the Department of Defense on H. R. 3830, a bill to authorize the construction and equipment of a geomagnetic station for the Department of Commerce.

That bill would authorize the construction and equipment for the Department of Commerce of a geomagnetic station, together with necessary utilities, instruments, and appurtenances, under a limit of cost of \$1,575,000. This Department favors the enactment of that bill.

The new geomagnetic station would replace the present Cheltenham Magnetic Observatory of the United States Coast and Geodetic Survey, located near Cheltenham, Md. From a variety of standpoints the Cheltenham Observatory is both outmoded and inadequate. Its buildings are approximately 50 years old, and are entirely wooden without adequate fire protection, which is a serious hazard especially in view of the fact that extremely valuable instruments, some of which have unique value as standards, are housed there. Moreover, the lack of available living quarters has created a personnel problem in view of the remote location of the site. The Observatory is situated on property held under a leasehold from a Maryland correctional institution, which occupies the adjoining property. The Observatory has frequently been broken into by irresponsible inmates of that institution and by marauders. Moreover, the operation of a pig farm by that institution creates a distinct nuisance interfering with the work of the Observatory.

From a technical standpoint, the gradual encroachment of various public utilities in the area has to an increasing extent interfered with the extremely sensitive magnetic work being carried on. The designing, constructing, developing, and calibrating of geomagnetic instruments for observatories and for field use on the ground, aboard ships, and on aircraft, require a nonmagnetic laboratory

and testing station at a suitable location within a uniform geomagnetic field and in the proximity of a base observatory where absolute values are continuously known. Such a station does not now exist. Work of this kind is now carried out at the old Cheltenham Laboratory under adverse conditions, to the prejudice of the results obtained.

The establishment of the proposed geomagnetic station, which is expected to perform services pertaining to the calibration of equipment for several operational activities, would obviate the necessity for such agencies as the Hydrographic Office, the Bureau of Ships, and the Air Material Command to maintain primary magnetic standards. In addition, the geomagnetic data which would be assembled at the proposed station would be of material value to a number of important research and development programs of the Department of Defense in the fields of navigation, communications, and weapons design.

The proposal for that station was made the subject of an extensive study and investigation in the summer of 1948 by the Panel on Terrestrial Magnetism and Electricity of the Research and Development Board. As a part of its investigation, the panel obtained the comments of each of the three military departments, and comment from each interested agency of each department was favorable.

The Department of the Army has issued to the Department of Commerce a 5-year permit beginning January 20, 1949, for the use of approximately 175 acres of land located on the A. P. Hill Military Reservation, 25 miles south of Fredericksburg, Va. It is understood that that tract of land will be used as the site of the new laboratory when the necessary authorization for the laboratory has been obtained. It is our recommendation that that authorization be given.

The Bureau of the Budget advised that there is no objection to the submission of this report to you.

Sincerely,

DANIEL K. EDWARDS.

